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EXAMINER

CURS, NATHAN M

ART UNIT PAPER NUMBER

2633

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,737

Applicant(s)

ZHANG ET AL.

Examiner

Nathan Curs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-17 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-17 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Canceled Claims

1. The applicant canceled claims 2 and 18-20 in the amendment filed 26 February 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 8-11, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cai et al. (US Patent No. 6219474).

Regarding claim 1, Cai et al. disclose a switchable optical add/drop device comprising: a DWDM R-channel assembly, a collimator assembly, and a switching device removably positioned therebetween so as to optionally perform a by-pass mode or an add/drop function, wherein said R-channel assembly includes first and second R-channels spatially opposite to each other (fig. 3 and fig. 6; and col. 3, lines 20-52; and col. 6, lines 7-16). Cai et al. disclose placement and removal of a prism switch in the signal paths within the assembly but do not disclose that said first R-channel is aligned with said second R-channel under a condition that when the switching device is removed from said R-channel assembly and said collimator assembly, there is no add/drop function. However, Cai et al. state that the prism switch embodiment disclosed is one embodiment of an integrated add/drop device having a prism switch (col. 5, lines 58-63). It would have been obvious to one of ordinary skill in the art at the time of the invention that the port names and port connections of the prism switch device shown

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in fig. 6 of Cai et al. could easily be alternatively renamed and/or reconfigured such that when the switching device is removed from said R-channel assembly and said collimator assembly, there is no add/drop function. This alternate embodiment would only require renaming/reconfiguring the ports of the Cai et al. prism switch device and would require no structural or functional modifications to the assembly itself.

Regarding claim 8, Cai et al. disclose that the collimator assembly includes first and second collimators respectively defining ADD and DROP ports (fig. 3 and fig. 5).

Regarding claim 9, Cai et al. disclose that said switching device is a prism (col. 5, lines 21-26).

Regarding claim 10, Cai et al. disclose that said prism blocks signal ways of the R-channel assembly and of the collimator assembly and forms the switchable paths therein for switching (fig. 5 and col. 5, lines 21-26).

Regarding claim 11, Cai et al. disclose a switchable optical add/drop device comprising: first and second DWDM R-channels functioning as IN and OUT ports, respectively (fig. 3; and col. 3, lines 20-52); first and second collimators functioning as ADD and DROP ports, respectively (fig. 5); and a switching device removably disposed at a position among said first and second R-channels and said first and second collimators so that the device functions as a switchable add/drop device with existence of the switching device while functions as a by-pass mode with removal of said switching device (col. 5, lines 21-26; fig. 6, and col. 6, lines 7-16). Cai et al. disclose placement and removal of a prism switch in the signal paths within the assembly but do not disclose that said first R-channel is aligned with said second R-channel under a condition that when the switching device is removed from said position, there is no add/drop function. However, Cai et al. state that the prism switch embodiment disclosed is one embodiment of an integrated add/drop device having a prism switch (col. 5, lines 58-63). It

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would have been obvious to one of ordinary skill in the art at the time of the invention that the port names and port connections of the prism switch device shown in fig. 6 of Cai et al. could easily be alternatively renamed and/or reconfigured such that when the switching device is removed from said R-channel assembly and said collimator assembly, there is no add/drop function. This alternate embodiment would only require renaming/reconfiguring the ports of the Cai et al. prism switch device and would require no structural or functional modifications to the assembly itself.

Regarding claim 13, Cai et al. disclose that said first R-channel and said first collimator are arranged on one side of said switching device, and the second R-channel and said second collimator are arranged on the other side of said switching device (fig. 3 and fig. 5).

Regarding claim 14, Cai et al. disclose that said switching device is a prism (col. 5, lines 21-26).

Regarding claim 15, Cai et al. disclose a method of optionally switchably adding/dropping channels of a signal, comprising the steps of (1) providing first and second R-channels spatially opposite to each other (fig. 3; and col. 3, lines 20-52), said first R-channel defining an IN port and said second R-channel defining an OUT port (fig. 3); (2) defining a first path between two near ends of said first and second R-channels, and a second path between two far ends of said first and second R-channels (fig. 3), (3) providing first and second collimators with ADD and DROP ports, respectively (fig. 3 and fig. 5); and (4) removably positioning a switching device at a position among said first and second R-channels and said first and second collimators for blocking the first path as a switchable optical add/drop device or for not block the first path as a by-pass mode (fig. 3; col. 5, lines 21-26; fig. 6, and col. 6, lines 7-16). Cai et al. disclose placement and removal of a prism switch in the signal paths within the assembly but do not disclose that said first R-channel is aligned with said second R-channel under a condition that

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when the switching device is removed from said position, there is no add/drop function.

However, Cai et al. state that the prism switch embodiment disclosed is one embodiment of an integrated add/drop device having a prism switch (col. 5, lines 58-63). It would have been obvious to one of ordinary skill in the art at the time of the invention that the port names and port connections of the prism switch device shown in fig. 6 of Cai et al. could easily be alternatively renamed and/or reconfigured such that when the switching device is removed from said R-channel assembly and said collimator assembly, there is no add/drop function. This alternate embodiment would only require renaming/reconfiguring the ports of the Cai et al. prism switch device and would require no structural or functional modifications to the assembly itself.

Regarding claim 16, Cai et al. disclose that said switching device defines two switching paths respectively guiding a filtered wavelength channel from the first path and an added wavelength channel from the first collimator (fig. 3; fig. 5; and col. 3, lines 20-52).

Regarding claim 17, Cai et al. disclose that said first and second R-channels are substantially structurally the same with the same filter thereof for the same specific wavelength channel (col. 3, lines 43-46).

4. Claims 3-7, 12, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cai et al. (US Patent No. 6219474) in view of Xu et al. (US Patent No. 5796889).

Regarding claim 3, Cai et al. disclose that the first R-channel includes a first DWDM filter, and a first fiber connected to an IN port of said first R-channel, and the second R-channel includes a second DWDM filter, and a second fiber connected to an OUT port of said second R-channel (fig. 3, and col. 3, lines 20-52). Cai et al. do not disclose that the R-channels include a GRIN lens. Xu et al. disclose a high-performance, low insertion loss WDM coupler (abstract and col. 1, lines 11-15) used as an add/drop filter, with a bandpass filter and a collimating GRIN

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lens, that accepts a multiwavelength signal input on one fiber and passes one wavelength to a second fiber while reflecting the remaining wavelengths to a third fiber (col. 4, lines 23-42). It would have been obvious to an artisan at the time of the invention to use the WDM coupler disclosed by Xu et al. for the WDM filters of Cai et al. for high performance and low insertion loss.

Regarding claim 4, Cai et al. disclose that said first R-channel and said second R-channel are structurally the same (col. 3, lines 43-46).

Regarding claim 5, Cai et al. disclose that said first R-channel and said second R-channel are face to face disposed with each other with said first filter and said second filter confronting each other (fig. 3)

Regarding claim 6, Cai et al. disclose that a first path is defined between the first filter and the second filter for passage of the filtered wavelength channel (fig. 3).

Regarding claim 7, Cai et al. disclose that a second path is defined between said first R-channel and said second R-channel, said second path being connected to the first R-channel on the same side of the IN port and to the second R-channel on the same side of the OUT port (fig. 3).

Regarding claim 12, Cai et al. disclose that said first and second DWDM R-channels are substantially structurally the same with each other each with a DWDM filter for the same specific wavelength channel (col. 3, lines 43-46). Cai et al. do not disclose that said first and second R-channels have a GRIN lens for the same specific wavelength channel. Xu et al. disclose a high-performance, low insertion loss WDM coupler (abstract and col. 1, lines 11-15) used as an add/drop filter, with a bandpass filter and a collimating GRIN lens, that accepts a multiwavelength signal input on one fiber and passes one wavelength to a second fiber while reflecting the remaining wavelengths to a third fiber (col. 4, lines 23-42). It would have been

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obvious to an artisan at the time of the invention to use two identical WDM couplers of the type disclosed by Xu et al. for each of the WDM filters of Cai et al. for high performance, low insertion loss, and matched wavelength filtering.

Regarding claim 21, Cai et al. disclose a subassembly of a switchable optical add/drop device comprising: a first R-channel including a first DWDM filter; a first fiber connected to the first DWDM filter and functioning as an IN port; a second R-channel and a second DWDM filter; a second fiber connected to the second DWDM filter and functioning as an OUT port; said first R-channel and said second R-channel being face to face disposed with each other with the first filter and the second filter confronting each other; a first path defined between the first filter and the second filter; and a second path defined between the first filter and the second filter around the IN and OUT ports (fig. 3 and col. 3, lines 20-52); whereby said subassembly may cooperate with a removable switching device to switchably add/drop the specific wavelength channel or perform a by-pass mode (fig. 6, col. 6, lines 7-16). Cai et al. disclose that the switching device is removably disposed at a position between said first and second R-channels so that the device functions as a switchable add/drop device, but do not disclose that said first R-channel is aligned with said second R-channel under a condition that when the switching device is removed from said position, there is no add/drop function. However, Cai et al. state that the prism switch embodiment disclosed is one embodiment of an integrated add/drop device having a prism switch (col. 5, lines 58-63). It would have been obvious to one of ordinary skill in the art at the time of the invention that the port names and port connections of the prism switch device shown in fig. 6 of Cai et al. could easily be alternatively renamed and/or reconfigured such that when the switching device is removed from said R-channel assembly and said collimator assembly, there is no add/drop function. This alternate embodiment would only require renaming/reconfiguring the ports of the Cai et al. prism switch device and would require no

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structural or functional modifications to the assembly itself. Also, Cai et al. do not disclose that the R-channels include GRIN lenses and do not disclose minimum insertion loss. Xu et al. disclose a high-performance, low insertion loss WDM coupler (abstract and col. 1, lines 11-15) used as an add/drop filter, with a bandpass filter and a collimating GRIN lens, that accepts a multiwavelength signal input on one fiber and passes one wavelength to a second fiber while reflecting the remaining wavelengths to a third fiber (col. 4, lines 23-42). It would have been obvious to an artisan at the time of the invention to use two identical WDM couplers of the type disclosed by Xu et al. for each of the WDM filters of Cai et al. for high performance, minimum insertion loss, and matched wavelength filtering.

Regarding claims 22 and 23, Cai et al. disclose that said first filter and R-channel and said second filter and R-channel are the same (fig. 3 and col. 3, lines 43-46).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 11, 15 and 21, and their dependent claims, have been considered but are moot in view of the new ground(s) of rejection.

Regarding claims 1, 11, 15 and 21, the applicant argues that the amended claims are allowable over Cai et al. because the drop filter and add filter are not aligned with each other as claimed by the applicant. However, the amended claims are not patentably distinct over Cai et al. Cai et al. state that the prism switch embodiment disclosed is one embodiment of an integrated add/drop device having a prism switch (col. 5, lines 58-63). Considering other obvious embodiments, the new grounds of rejection disclose that it would have been obvious that the port names and port connections of the prism switch device shown in fig. 6 of Cai et al. could easily be renamed and/or reconfigured such that when the switching device is removed

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there is no add/drop function, without requiring any structural or functional modifications to the assembly itself.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

7. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (703) 305-0370. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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